The
# Liker Health Report

**Keeping People Focused on Staying Fit & Healthy**

**Winter 2019**

## Resolve to Take Care of Your Microbiome in 2019

***Take Care of Your Gut Bugs, and They'll Reward You with Better Health***

The microbiome is the ecosystem of organisms that inhabits the human body, both on the inside and on the outside (the skin). The majority of these organisms -- generally, bacteria -- live in the intestinal tract with most inhabiting the large intestine, so it's commonly referred to as the *gut microbiome*. Everyone's gut microbiome differs, but is largely influenced by a few common factors related to how the microbiome was initially populated at birth (vaginal birth vs. Cesarean section) and how it was taken care of after birth (breastfeeding vs formula feeding; length of breastfeeding; diet and daily nutrition; oral antibiotic use). The reason that the microbiome is so important is because this ecosystem is closely related to immune function and when the immune system is functioning properly, it can effectively eradicate pathogenic microbes; a healthy, diverse microbiome cultivates the friendly, or beneficial, bacteria while keeping the harmful, or pathogenic, bacteria at bay. If the microbiome becomes compromised and the pathogenic bacteria overwhelm the beneficial bacteria, we experience illness, disease, and sometimes death.

Microbiome research is still in its infancy, yet appears to be the clear future of medicine. The thousand species of bacteria and trillions of cells that combined weigh between three and four pounds are also believed to regulate thoughts and emotions and are likely to play a role in depression, anxiety, autism, and other mental illnesses. Microbiota diversity is key; having more species of bacteria has been correlated with better overall health while having fewer species has been observed in disease states. Gut bacteria feeds on whichever foods are ingested, but they have a preference for high fiber foods and prebiotics, which are metabolized into amino acids that become the building blocks for serotonin and dopamine. Approximately 90% of serotonin is made in the gut lining, hence the microbiome's importance in mental health. Hippocrates said, "*All disease begins in the gut*," and as more is learned, it's becoming clear that "*All **health** begins in the gut*." Take care as to what you what you feed it.

### Microbiome-Friendly Diet

**ANTIOXIDANTS**

**Citrus Fruits**
**Non-Starchy Vegetables**
**Spices & Herbs**

**OMEGA-3 FATTY ACIDS**

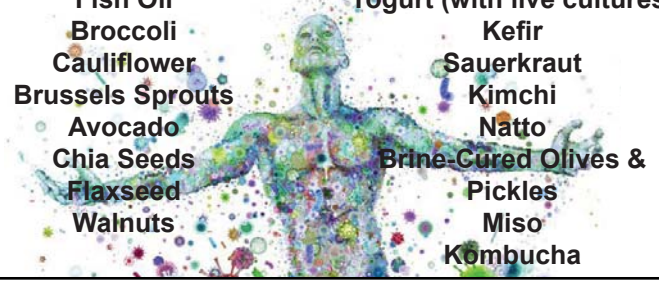
**Fatty Fish: Salmon, Tuna, Sardines, Anchovies, Mackerel, Herring**
**Fish Oil**
**Broccoli**
**Cauliflower**
**Brussels Sprouts**
**Avocado**
**Chia Seeds**
**Flaxseed**
**Walnuts**

**PREBIOTICS**

**Asparagus (raw)**
**Garlic (raw)**
**Onions (raw or cooked)**
**Dandelion Greens**
**Jerusalem Artichoke**
**Bananas (not fully ripe)**

**PROBIOTIC-RICH FOODS**

**Yogurt (with live cultures)**
**Kefir**
**Sauerkraut**
**Kimchi**
**Natto**
**Brine-Cured Olives & Pickles**
**Miso**
**Kombucha**



### RESEARCH PEARLS:

**Autism & Oral Microbiota**

Altered gut microbiota (bacteria in the gut) has previously been associated with autism spectrum disorders (ASD), and recently the salivary and dental microbiota of ASD patients has been observed to be highly distinct from those of healthy individuals. A lower bacterial diversity in ASD children compared to controls has been observed, most notably Prevotella, but also Selenomonas, Actinomyces, Porphyromonas, and Fusobacterium. Prevotella aids in starch/carbohydrate digestion, and so ASD children are often prescribed a grain-free or gluten-free diet. Research also showed that pathogens such as Haemophilus in saliva and Streptococcus in dental plaques are significantly higher in ASD patients. Such research may not lead to treatment, but better or more timely diagnoses.

*Sci Rep. 2018 Jan 25;8(1):1597.*

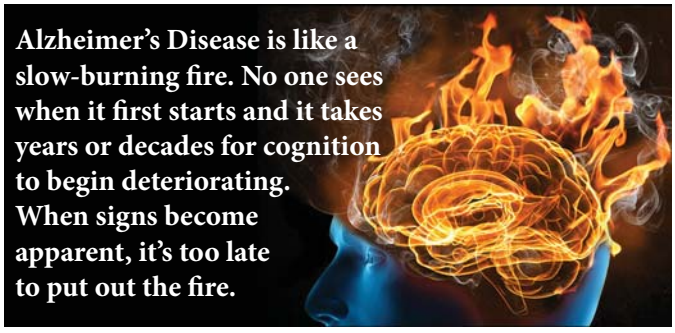
# Sugar-Overloaded Brain

## Excessive *Sugar Consumption & Dementia*

In addition to depression, anxiety, and addiction which were discussed previously, dementia and cognitive decline also appear to have a significant link to excessive sugar consumption. Similar to the way that sugar suppresses the activity of brain-derived neurotrophic factor (BDNF), a hormone that is measurably lower in people with depression and schizophrenia, lower BDNF levels are observed in individuals with dementia.

BDNF supports growth, development and survival of neurons and without BDNF, the brain is unable to form new memories. Learning and remembering are compromised. BDNF levels are especially low in individuals who have impaired glucose metabolism or insulin resistance which includes pre-diabetics and diabetics. Continued consumption of **added** sugars puts the brain and body in a vicious cycle that is difficult, if not impossible, to reverse.

An April 2018 study published in the journal *Diabetologia*, followed 5,189 people for more than 10 years. Regardless of whether their blood sugar levels warranted a "diabetic" diagnosis, those with high blood sugar levels experienced faster rates of cognitive decline than those with normal blood sugar levels. In other words, the higher the blood sugar, the faster the cognitive decline. A review of research studies in 2016 found that individuals with type 2 diabetes are about twice as likely to get Alzheimer's Disease (AD), and diabetics (types 1 and 2) who are treated with insulin are also more likely to get Alzheimer's. The current hypothesis is that insulin, whether produced by the pancreas or injected, plays an uncertain role in the amyloid proteins in the brain that clump and are the hallmark sign of AD. This is why AD is sometimes referred to as "type 3 diabetes," and it's becoming apparent that AD is just one more side effect of a sugar-laden, Western-style diet.




***Life is not a matter of holding good cards, but of playing a poor hand well.***

**Robert Louis Stevenson**

# *Dear Dr. Liker...*

*My grandchildren eat a lot of sweets but they're not overweight. Other than harming their teeth, is it a problem?*

Yes. Research has shown that ongoing consumption of added or processed sugars (candy, baked goods, sodas, fruit juices) dulls the human brain's mechanism to tell you to stop eating -- sweets or any other types of food. In healthy individuals, the anorexigenic oxytocin system within the brain puts out the "I'm full flag" which essentially prevents us from gorging ourselves. In individuals who chronically over-consume sugar, their "I'm full flag" doesn't work properly. Sugar over-consumption blunts the oxytocin cells in the brain, and so these people eat bigger portions and eat more frequently, including midnight-snacking.

Generalized overeating has its own health risks for children that are related to the development of obesity. The rate of obesity among American children and adolescents has more than tripled since the 1970s. As of 2016, about one in five school-age children (6 to 19 years old) was obese. Obese children have a higher risk of asthma, sleep apnea, joint or bone problems, type 2 diabetes, and the initial risk factors for heart disease. Without intervention, obese children are likely to carry their obesity into adulthood which puts them at an increased risk for heart disease, metabolic syndrome, type 2 diabetes, and some types of cancer.

***HL***

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